APPENDIX D
HAZARD MAPPING DATA SOURCES & FACILITY COST ESTIMATES

Bear River District Pre-Disaster Mitigation Plan
Metadata – Information about the GIS data

Data Layer	Creator	Date Produced	Scale	Description	Classes
Population	U.S. Census Bureau	2000	Census Block Level	Total number of individuals within each block	
Housing Units	U.S. Census Bureau	2000	Census Block Level	Total number of dwelling units within each block	
Housing Value	U.S. Census Bureau	2000	Census Block Group	Average value of owner-occupied dwelling units within the block group	
Critical Facalities				HAZUS DATA	Schools, police stations, hospitals and fire stations
Businesses				HAZUS DATA	All non-home businesses
Water Related Land Use	Utah Division of Water Resources	Bear River area produced 1996, Published 2000	1 : 24,000	Land use types from aerial photography	All built-up classes labeled with "v"
Quaternary Faults	United States Geological Survey	09-01-02	1 : 100,000	GIS data digitized from Hecker, Utah Geological Survey Bulletin 127.	All Quaternary Faults were used in the analysis with a 100' buffer on both sides of the fault
Earthquake Epicenters 1963-1993	University of Utah Seismograph Station	1993	1 : 100,000	All earthquakes large enough to register on seismograph	
Data Layer	**Creator**	**Date Produced**	**Scale**	**Description**	**Classes**
Wildfire Hazard	Bureau of Land Management and Division of Emergency Services	March 2000	Unspecified 1: 100,000	Hazard rating based on the population density, fire hazard potential (based on vegetation type), and fire occurrence (fire density) of a given location	Only classes labeled "extreme" and "high" were used in this analysis

Data Layer	Creator	Date Produced	Scale	Description	Classes
Wildfires 1986 - 2000	?	?	?	Location of Fires	
Flood Zones	FEMA and FIRM	1978-1981	1 : 10,000	Areas considered within 100 year floodplains by FEMA	Only Zone A considered in analysis
Landslide Areas	USGS	Published 2001	1 : 100,000	Landslides that have been mapped	Only active landslide areas considered in analysis
Liquefaction Potential	Utah Geologic Survey	1994	1 : 100,000	Liquefaction Potential	Only areas of high liquefaction potential considered in analysis

INFRASTRUCTURE COSTS
(HAZUS) ROAD CONSTRUCTION PER MILE
COST TEMPLATES

Road Tunnels
1 million dollars per 10 meters

Bridges see attachment page 3-30
Major bridges (think I-15) 20 million Dollars
Wood bridges 1 million
Concrete bridges 1 million

Natural gas distribution lines
$150,000 per km

Rail Track
$1.5 million per km

Waste Water Distribution lines
$150,000 per km

Potable water distribution lines
$150,000 per km

Electric power distribution lines
$30,000 per km

Communication distribution lines
$50,000 per km

Water treatment plants page 3-37

Sewer and waste water treatment plants 3-38

Power plants and substation 3-40

ROAD REPLACEMENT COSTS		
RIGHT-OF-WAY Feet	**CONSTRUCTION Cost Per Mile**	**DESCRIPTION**
110	$ 4,500,000	6 Lanes, 1 Center or Median, and 2 Shoulders
110	$ 4,700,000	4 Lanes, 1 Center or Median, 2 Shoulders, and 2 Sidewalks
110	$ 4,700,000	6 Lanes, 1 Center or Median, and 2 and Sidewalks
84	$ 3,900,000	2 Lanes, 1 Center or Median, 2 Shoulders, and 2 Sidewalks
84	$ 3,900,000	4 Lanes, 1 Center or Median, and 2 Sidewalks
66	$ 3,100,000	2 Lanes, 1 Center or Median, and 2 Sidewalks
66	$ 3,500,000	4 Lanes, and 2 Sidewalks
66	$ 3,600,000	4 Lanes, and 1 Center or Median
150+	$ 7,100,000	8 Lanes, 2 Median, and 4 shoulders
220	$ 5,500,000	4 Lanes, 2 Median, and 4 shoulders
125	$ 6,100,000	6 Lanes, 1 Center or Median, 2 shoulders, and 2 sidewalks
I-15 (widening)	$ 10,000,000	Add one lane each direction
Legacy Hwy / I-80 / SR-201	$ 30,000,000	
I-15 (reconstruction), 5600 W. Freeway	$ 50,000,000	